ORDER NO. AD9902013C2

Service Manual

Amplifier

SE-HD301

Colour

(N).....Gold Type

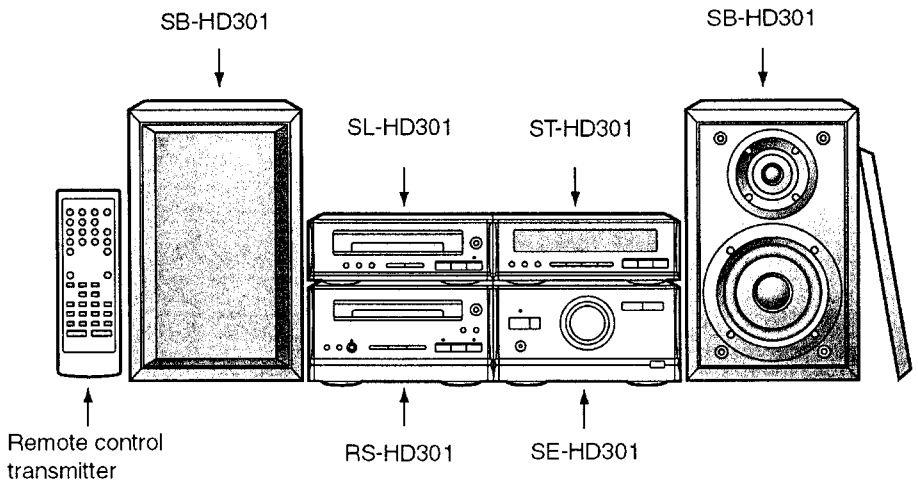
Areas

E.....Europe.

EG.....Germany and Italy, etc.

EB.....Great Britain.

System: SC-HD301



SPECIFICATIONS

Because of unique interconnecting cables, when a compact requires service, send or bring in the entire system.

Specifications

■ Amplifier Section

Power output

DIN 1 kHz, THD 1%, both channels driven : 2 X 17W (6 ohm)

RMS 1 kHz, THD 10%, both channels driven: 2 X 20W (6 ohm)

Total harmonic distortion

Half power at 1 kHz: 0.09% (6 ohm)

Frequency responce: 50Hz-20kHz(+1dB,-3dB)

S/N(rated power): 75dB

Load impedanced: 6 ohm

Headphones

Jack type: 3.5mm STEREO

Load impednaced : 16-32 ohm

■ General

Power consumption: 67W

STANDBY condition Normal: 9W
Eco:0.8W

Power supply

[For (EB) area]: 230-240V, AC 50Hz

[For (E, EG) areas]: 230V, AC 50Hz

Dimensions (WxHxD): 186 x 104 x 270 mm

Weight: 2.9 kg

Notes:

1. Specifications are subject to change without notice.
2. Dimensions and Weight are approximate.
3. Total harmonic distortion is measured by the digital spectrum analyzer.

System/SC-HD301:

Tuner: ST-HD301, Compact Disc Player: SL-HD301, **Amplifier: SE-HD301**, Cassette Deck: RS-HD301, Speakers: SB-HD301 (Made in PAES.)

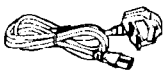
⚠ WARNING

This service information is designed for experienced repair technicians only and is not designed for use by the general public.
It does not contain warnings or cautions to advise non-technical individuals of potential dangers in attempting to service a product.
Products powered by electricity should be serviced or repaired only by experienced professional technicians. Any attempt to service or repair the product or products dealt with in this service information by anyone else could result in serious injury or death.

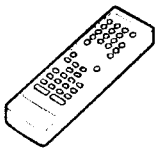
Technics®

1. Accessories

· AC power supply cord ..... 1 pc.
For (EB) area: (RJA0053-2X)
For (E, EG) areas: (RJA0019-X)



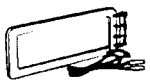
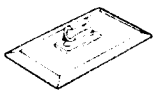
· Remote control transmitter ..... 1 pc.
(RAK-HDA07WH)



· Speaker cords ..... 2 pcs.
(REE0499)

· Remote control batteries ..... 2 pcs.
[(R6/LR6 (AA, UM-3)]
Note: These are available on sales route.

· AM loop antenna set (RSA0021)
AM loop antenna ..... 1 pc.
Antenna holder with stand ..... 1 pc.

Antenna holder ..... 1 pc.
Screw ..... 1 pc.

· FM indoor antenna ..... 1 pc.
(RSA0007)

· Antenna plug adaptor ..... 1 pc.
For (EB) area only:
(SJP9009)

2. Before Repair and Adjustment

1. Turn off the power supply. Using a 10Ω , 10W resistor, connect both ends of power supply capacitors (C102-105, 127) in order to discharge the voltage.

2. Before turning the power supply on, after completion of repair, slowly apply the primary voltage by using a power supply voltage controller to make sure that the consumed current at 50/60 Hz in NO SIGNAL mode should be shown below with respect to supply voltage 230 V/240 V.

Area	(E) (EG)		(EB)	
Power supply voltage	AC 230V		AC 240V	
Consumed current 50 Hz	50 Hz	30-140 mA	50 Hz	30-140 mA

3. Caution for AC Main Lead

4. Operating Instructions

5. Operation Checks and Component Replacement Procedures

NOTE 1. This section describes procedures for checking the operation of the major printed circuit boards and replacing the main components.

2. For reassembly after operation checks or replacement, reverse the respective procedures. Special reassembly procedures are described only when required.

3. Select item from the following index when checks or replacement are required.

• Contents

■ Checking Procedures for each P.C.B.

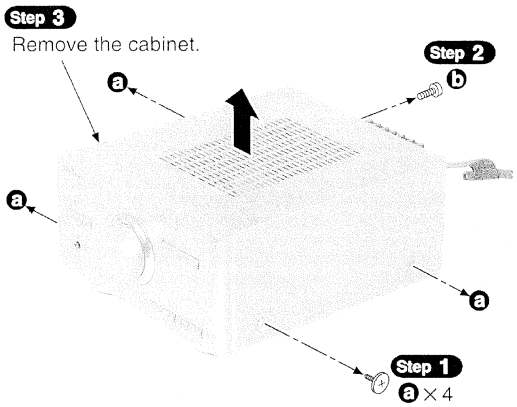
1. Checking for the AC IN P.C.B. and relay P.C.B..
2. Checking for the operation P.C.B..
3. Checking for the main P.C.B..

■ Main Component Replacement Procedures

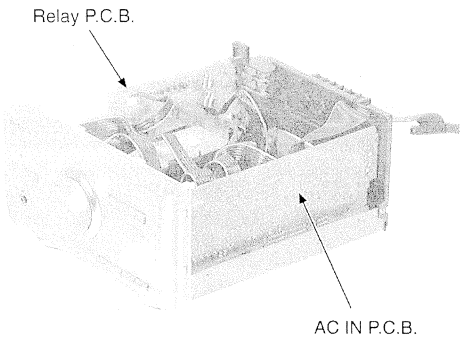
1. Replacement for the power IC.

■ Checking Procedures for each P.C.B.

1. Checking for the AC IN P.C.B. and relay P.C.B.

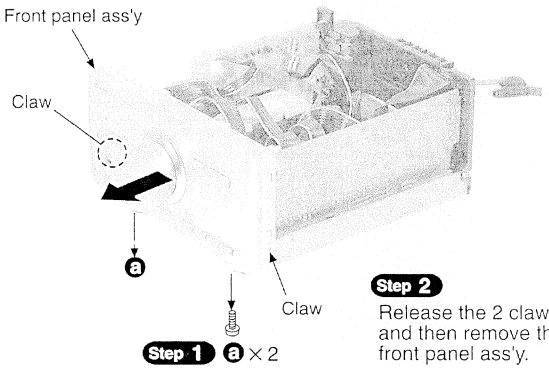


· Check the AC IN P.C.B. and relay P.C.B. as shown below.

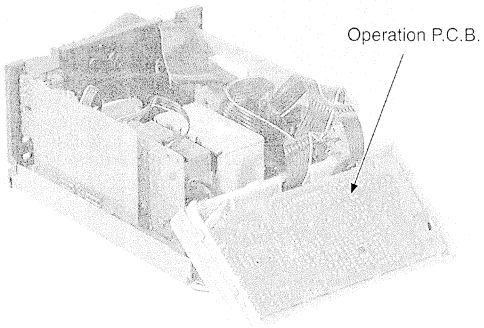


2. Checking for the operation P.C.B.

· Follow the Step 1 ~ Step 3 of the item 1 in checking procedure for each P.C.B..

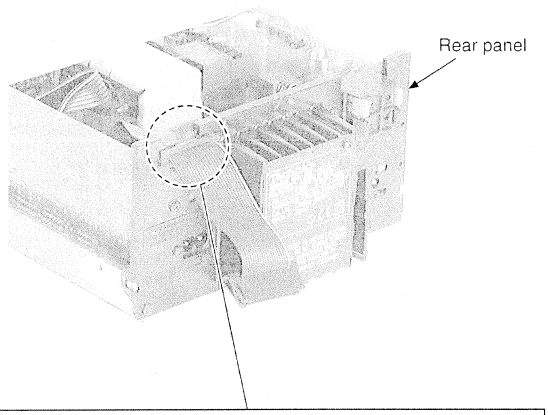


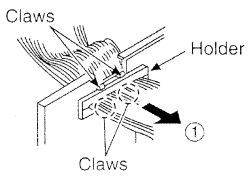
· Check the operation P.C.B. as shown below.



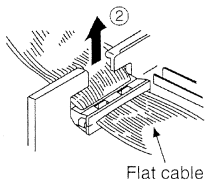
3. Checking for the main P.C.B.

- Follow the **Step 1** ~ **Step 3** of the item 1 in checking procedure for each P.C.B..
- Follow the **Step 1** , **Step 2** of the item 2 in checking procedure for each P.C.B..

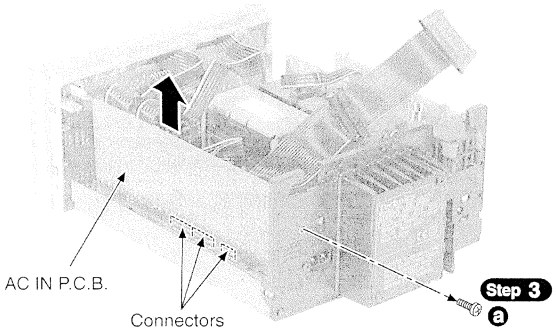




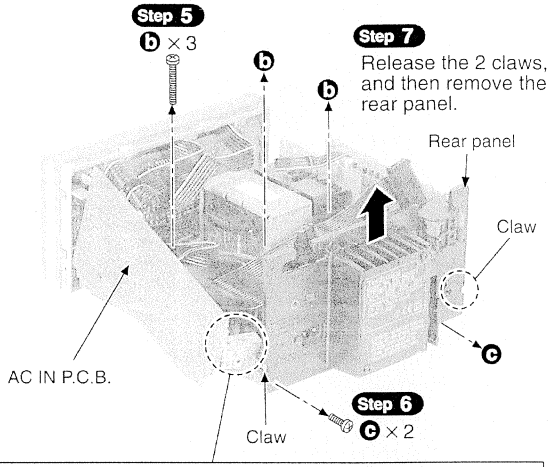
Step 1
Release the 4 claws, and then remove the holder.



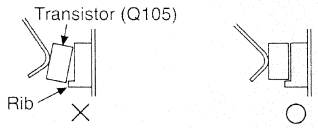
Step 2
Remove the flat cable from rear panel.



Step 4
Remove the AC IN P.C.B. upward with care to prevent damage to the connectors.

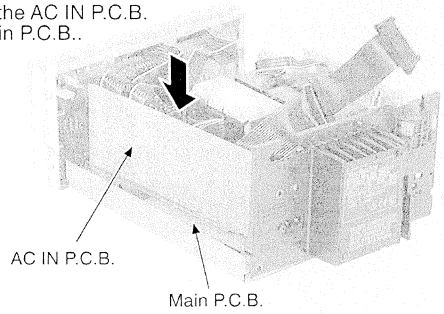


■ Notice for installation of AC IN P.C.B.

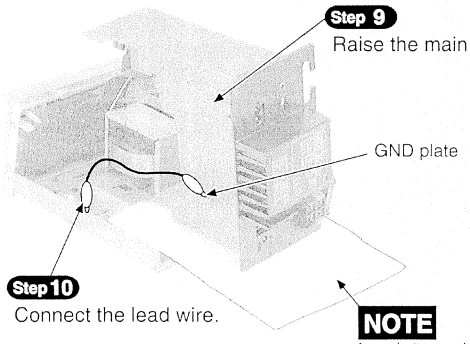


1. Use care that the transistor (Q105) is not located on the rib as shown above.
2. Apply the compound grease (No. RFKX0002 or equivalent material) on the back side of transistor (Q105).
3. Use care to prevent applying the grease on the lead wire or other parts.

Step 8
Reinstall the AC IN P.C.B. to the main P.C.B..



· Check the main P.C.B. as shown below.

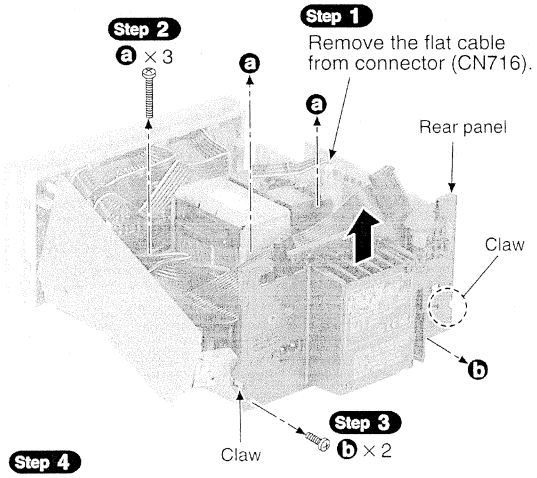


NOTE
Insulate main P.C.B. with insulation material to avoid short-circuit.

Main Component Replacement Procedures

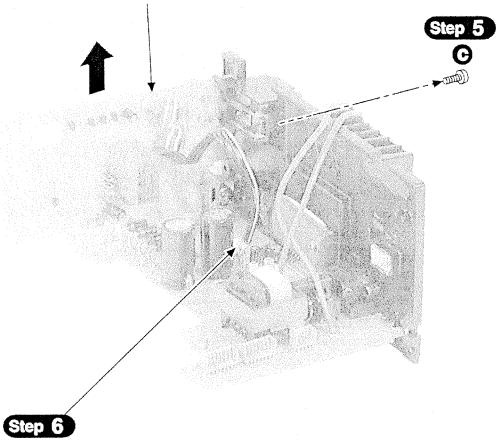
1. Replacement for the power IC

- Follow the Step 1 ~ Step 3 of the item 1 in checking procedure for each P.C.B..
- Follow the Step 1 , Step 2 of the item 2 in checking procedure for each P.C.B..
- Follow the Step 1 ~ Step 4 of the item 3 in checking procedure for each P.C.B..

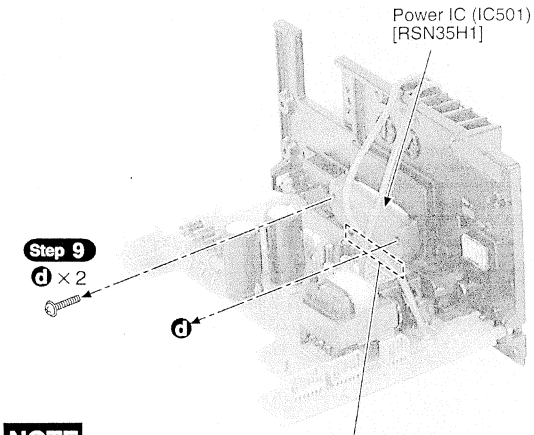


Step 4
Release the 2 claws, and then remove the rear panel.

Step 7
Lift up the relay P.C.B..



Step 6
Remove the flat cable from connector (CP701).



NOTE
When mounting the power IC apply silicone conpound (RFKX0002) to the rear side of power IC.

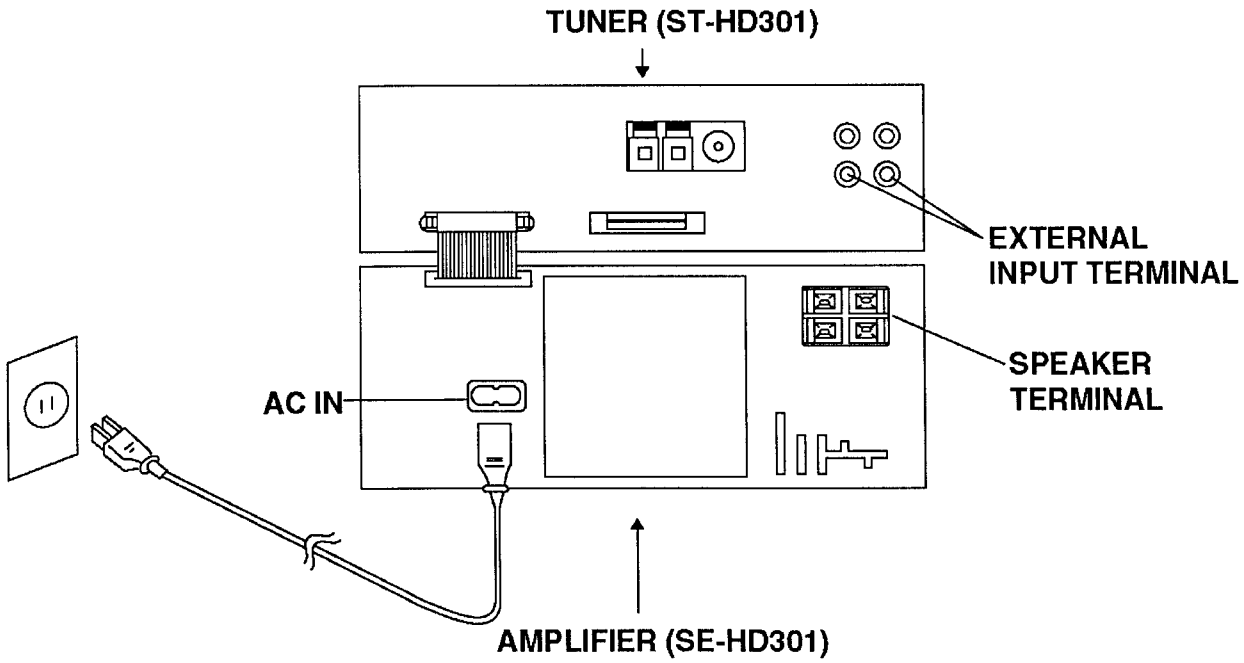
Step 8
Unsolder the terminals of power IC.

6. Power Source ON/OFF and Signal Check

To operate this unit SE-HD301 normally, it is necessary for connecting with the unit ST-HD301.
When operating the unit SE-HD301, be sure to connect the unit ST-HD301 with included connection cable.

1. Connect with the Tuner (ST-HD301). (As shown in Fig. 1)
2. Connect the AC mains lead to Amplifier (SE-HD301). (As shown in Fig. 1)
3. Connect the speakers to speaker terminal. (As shown in Fig. 1)
4. Turn on the power of the Amplifier (SE-HD301).
5. Press INPUT SELECTOR to select the external source (EXT/MD) of the Amplifier (SE-HD301).
6. Input a sound signal to external input terminal of Tuner (ST-HD301), and confirm to be outputted from the speaker.

Fig. 1



7. Schematic Diagram Notes

7.1. Type Illustration of IC's, Transistors and Diodes

7.2. Schematic Diagram Notes

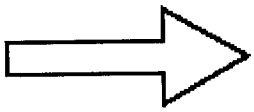
- This schematic diagram may be modified at any time with the development of new technology.

Notes:

- S301: Power "STANDBY / ON" switch in "OFF" position.
- S302: Eco mode switch in "OFF" position.
- S303: Source input select control (∧) switch.
- S304: Source input select control (∨) switch .
- S305: Treble+ (TREBLE+) switch.
- S306: Treble- (TREBLE-) switch.
- S307: Bass+ (BASS+) switch.
- S308: Bass -(BASS-) switch.
- VR301: Main control V.R.
- Indicated voltage values are the standard values for the unit measured by the DC electronic circuit tester (high-impedance)with the chassis taken as standard. Therefore, there may exist some errors in the voltage values, depending on the internal impedance of the DC circuit tester.
  No mark: Power ON
- Important safety notice:
  Components identified by ⚠ mark have special characteristics important for safety.
  Furthermore, special parts which have purposes of fire-retardant (resistors), high-quality sound (capacitors), low-noise (resistors), etc. are used.
  When replacing any of components, be sure to use only manufacture´s specified parts shown in the parts list.
- Caution!
  IC and LSI are sensitive to static electricity.
  Secondary trouble can be prevented by taking care during repair.
  Cover the parts boxes made of plastics with aluminum foil.
  Ground the soldering iron.
  Put a conductive mat on the work table.
  Do not touch the legs of IC or LSI with the fingers directly.
- Voltage and signal lines

: Positive voltage line

: Negative voltage line



: Source signal line

8. Schematic Diagram

9. Printed Circuit Board Diagram

10. Block Diagram

11. Wiring Connection Diagram

12. Replacement Parts List

Notes:

* Important safety notice:

Components identified by ⚠ mark have special characteristics important for safety.

Furthermore, special parts which have purposes of fire-retardant (resistors), high-quality sound (capacitors), low-noise (resistors), etc. are used.

When replacing any of components, be sure to use only manufacture´s specified parts shown in the parts list.
*** The parenthesized indications in the Remarks columns specify the areas. Parts without these indications can be used for all areas.**
*** Remote Control Ass´y: Supply period for three years from terminal of production.**
*** Capacity values are in microfarads (uF) unless specified otherwise, P=Pico-farads(pF), F=Farads (F)**
*** Resistance values are in ohms, unless specified otherwise, 1K=1,000 (OHM), 1M=1,000K (OHM)**
*** "<IA>, <IB>, <IC>, <ID>" marks in Remarks indicate languages of instruction manual.**
[<IA>: Germany/Italian/French, <IB>: Dutch/Danish, <IC>: English/Spanish, <ID>: English]

Ref. No.	Part No.	Part Name & Description	Pcs	Remarks
1	RHD30007-S	SCREW	4	
2	RKM0397B-S	CABINET	1	
3	XTBS3+10JFZ1	SCREW	1	
4	XTB3+8JFZ	SCREW	3	
5	RGH0154B-K	NAME PLATE	1	(E)(EG)
5	RGH0154C-K	NAME PLATE	1	(EB)
6	RGW0318-S	KNOB VOLUME	1	
7	RKA0076-N1	FOOT	4	
7-1	RKA0083-K	CUSHION	4	
8	XTB3+6G	SCREW	4	
9	RFKGEHD301EN	FRONT PANEL ASS'Y	1	
10	RGK0812-S	SIDE ORNAMENT(L)	1	
11	RGK0813-S	SIDE ORNAMENT(R)	1	
12	RGK0815A-N	VOLUME ORNAMENT	1	
13	RGU1750-S	BUTTON	1	
14	RGU1751-S	BUTTON	1	
15	RHD26016	SCREW	1	
16	RHN90001	NUT	1	
17	XTBS26+8J	SCREW	5	
18	XTBS3+8JFZ1	SCREW	11	
19	XTB3+12FFZ	SCREW	1	
20	XTB3+20JFZ	SCREW	3	
21	XTW3+15T	SCREW	3	
22	REX0962	FLAT CABLE(20P)	1	
27	RMV0186	BARRIER	1	
A1	RAK-HDA07WH	REMOTE CONT.TRANSMITTER	1	
A1-1	RKK0123-K	BATT.COVER(REMOTE CONT.)	1	
A2	REE0499	SPEAKER CORD	2	
A3 ⚠	RJA0019-X	AC POWER SUPPLY CORD	1	(E)(EG)
A3 ⚠	RJA0053-2X	AC POWER SUPPLY CORD	1	(EB)

Ref. No.	Part No.	Part Name & Description	Pcs	Remarks
A4	RQA0117	WARRANTY CARD	1	
A5	RQCB0169	SERVICENTER LIST	1	
A6	RQT4890-E	INSTRUCTION MANUAL	1	(E)<IC>
A6	RQT4891-B	INSTRUCTION MANUAL	1	(EB)<ID>
A6	RQT4888-D	INSTRUCTION MANUAL	1	(EG)<IA>
A6	RQT4889-H	INSTRUCTION MANUAL	1	(EG)<IB>
A7	RSA0007	FM INDOOR ANTENNA	1	
A8	RSA0021	AM LOOP ANTENNA	1	
A9	RQCA0664	QUICK SETUP GUIDE	1	(EB)
A10	SJP9009	AC PLUG ADAPTOR	1	(EB)
⚠				
C101	RCE1EM471BV	25V 470U	1	
⚠				
C102	ECA2AM470	100V 47U	1	
⚠				
C103	ECA1EM101	25V 100U	1	
⚠				
C104,05	ECA1HM470B	50V 47U	2	
⚠				
C106	ECBT1E103ZF	25V 0.01U	1	
C107	RCE1AKA470BG	10V 47U	1	
C108	RCE1VKA100BG	35V 10U	1	
C109	RCE1AKA470BG	10V 47U	1	
C110	ECEA1VKS470	35V 47U	1	
C111,12	ECKR1H103ZF5	50V 0.01U	2	
C113	ECBT1E103ZF	25V 0.01U	1	
C114	ECA1EM101	25V 100U	1	
C115	ECA1EM222	25V 2200U	1	
⚠				
C116	RCE1EM471BV	25V 470U	1	
⚠				
C117	ECBT1E103ZF	25V 0.01U	1	
C118,19	RCE1CKA100BG	16V 10U	2	
C120	ECA1EM101	25V 100U	1	
⚠				
C121,22	ECBT1E103ZF	25V 0.01U	2	
C123,24	ECEA1EKS4R7	25V 4.7U	2	
C125	ECBT1E103ZF	25V 0.01U	1	
C126	ECA1HM470B	50V 47U	1	
C127	ECEA1CKS101	16V 100U	1	
⚠				
C128-30	ECBT1H101KB5	50V 100P	3	
C301,02	ECBT1H473ZF5	50V 0.047U	2	
C303	ECEA1AKS221	6.3V 220U	1	
C304	ECEA0JKS101	6.3V 100U	1	
C305,06	ECBT1E103ZF	25V 0.01U	2	
C307-10	ECBT1H101KB5	50V 100P	4	
C311,12	ECEA1HKS010	50V 1U	2	
C313,14	ECBT1H331KB5	50V 330P	2	
C315,16	ECEA1EKS4R7	25V 4.7U	2	
C317,18	ECBT1E103ZF	25V 0.01U	2	

Ref. No.	Part No.	Part Name & Description	Pcs	Remarks
C319	ECBT1H101KB5	50V 100P	1	
C501	ECEA1CKN4R7	16V 4.7U	1	
C503,04	RCE1HKA3R3BG	50V 3.3U	2	
C505,06	ECBT1C272KR5	16V 2700P	2	
C507,08	ECBT1C152KR5	16V 1500P	2	
C509	ECEA1HKA330B	50V 33U	1	
C510	ECEA1HSN2R2	50V 2.2U	1	
C511,12	ECBT1H330J5	50V 33P	2	
C515,16	RCE1HKA3R3BG	50V 3.3U	2	
C517,18	ECBT1H104ZF5	50V 0.1U	2	
C519	ECEA0JKS101	6.3V 100U	1	
C520	ECBT1E223ZF	25V 0.022U	1	
C523,24	ECBT1H473ZF5	50V 0.047U	2	
C525,26	ECBT1H102KB5	50V 1000P	2	
C549,50	ECBT1H104ZF5	50V 0.1U	2	
C701,02 ⚠	ECA1VM332	35V 3300U	2	
C703	ECQE1104KF3	100V 0.1U	1	
C704	ECKR2H102ZF5	500V 1000P	1	
C705 ⚠	ECA1HM470B	50V 47U	1	
CN101	RJS2A5520-1	CONNECTOR(20P)	1	
CN102	RJS8T6ZA	CONNECTOR(8P)	1	
CN103	RJS6T6ZA	CONNECTOR(6P)	1	
CN104	RJU057W007	CONNECTOR(7P)	1	
CN105	RJU057W004	CONNECTOR(4P)	1	
CN106	RJU057W007	CONNECTOR(7P)	1	
CN303	RJU057W004	CONNECTOR(4P)	1	
CN701-10	RJS1A1101T1	CONNECTOR(1P)	10	
CN714,15	RJU057W007	CONNECTOR(7P)	2	
CN716	RJS4T6ZA	CONNECTOR(4P)	1	
CP104	RJT057W007-1	CONNECTOR(7P)	1	
CP105	RJT057W004-1	CONNECTOR(4P)	1	
CP106	RJT057W007-1	CONNECTOR(7P)	1	
CP303	RJT057W004-1	CONNECTOR(4P)	1	
CP701	RJS1A6604	CONNECTOR(4P)	1	
CP714,15	RJT057W007-1	CONNECTOR(7P)	2	
D101	MA4051M	DIODE	1	
D102-04	MA165	DIODE	3	
D105-10 ⚠	RL1N4003N02	DIODE	6	
D111 ⚠	MA4062M	DIODE	1	
D112 ⚠	MA4240H	DIODE	1	
D113,14 ⚠	1N5402BF	DIODE	2	
D115,16 ⚠	RL1N4003N02	DIODE	2	

Ref. No.	Part No.	Part Name & Description	Pcs	Remarks
D117 ⚠	MA4160M	DIODE	1	
D118 ⚠	MA4110M	DIODE	1	
D119,20 ⚠	RL1N4003N02	DIODE	2	
D121,22	MA165	DIODE	2	
D123,24 ⚠	RL1N4003N02	DIODE	2	
D125,26	MA165	DIODE	2	
D127 ⚠	RL1N4003N02	DIODE	1	
D128	MA165	DIODE	1	
D301,02 ⚠	MA4075M	DIODE	2	
D306	SLR-325VC	LED	1	
D307	MA165	DIODE	1	
D312,13 ⚠	MA4075M	DIODE	2	
D501	MA4150M	DIODE	1	
D701-04 ⚠	1N5402BF	DIODE	4	
D705,06 ⚠	RL1N4003N02	DIODE	2	
D707 ⚠	MA4051M	DIODE	1	
D708-10	MA165	DIODE	3	
D711-14 ⚠	RL1N4003N02	DIODE	4	
D715	MA165	DIODE	1	
F1 ⚠	XBA2C04TB0	FUSE	1	
F2 ⚠	XBA2C20TB0	FUSE	1	
FP701,02 ⚠	RSFMB40KT-L	FUSE PROTECTOR	2	
IC301	M5218AFPE3	IC	1	
IC501 ⚠	RSN35H1	IC	1	
JK301	RJJ37TN01-C	HEADPHONES	1	
JK501	RJR0054B	SPEAKER	1	
JK701 ⚠	SJS9236	JACKAC INLET	1	
L501,02	SLQY07G-40	COIL CHOKE	2	

Ref. No.	Part No.	Part Name & Description	Pcs	Remarks
L701 ⚠	RLQZ371	LINE FILTER	1	
P1	RPF0139	PROTECTION BAG(F.B.)	1	
P2	RPG4392	PACKING CASE(AMP./DECK)	2	
P3	RPN1186	CUSHION(AMP./DECK)	2	
P4	RPG4322	PACKING CASE(SYSTEM)	1	(E)
P4	RPG4323	PACKING CASE(SYSTEM)	1	(EB)
P4	RPG4321	PACKING CASE(SYSTEM)	1	(EG)
P5	RPQ0771	PAD	1	
P6	SPP740-1	PROTECTION BAG	4	
PT701 ⚠	RTP2M5E015	POWER TRANSFORMER	1	(EG)(E)
PT701 ⚠	RTP2M5B017	POWER TRANSFORMER	1	(EB)
PT702 ⚠	RTP1I3E001	POWER TRANSFORMER	1	
Q101 ⚠	2SD2374PQAU	TRANSISTOR	1	
Q102 ⚠	2SB621A-R	TRANSISTOR	1	
Q103	2SC3311ATA	TRANSISTOR	1	
Q104 ⚠	2SC3940AQSTA	TRANSISTOR	1	
Q105 ⚠	2SD2374PQAU	TRANSISTOR	1	
Q106 ⚠	2SC3327A	TRANSISTOR	1	
Q301,02	2SC3327A	TRANSISTOR	2	
Q303	UN4115	TRANSISTOR	1	
Q307,08	2SC3327A	TRANSISTOR	2	
Q501	UN4115	TRANSISTOR	1	
Q503,04	2SC3327A	TRANSISTOR	2	
Q508,09	2SC3311ATA	TRANSISTOR	2	
Q510	2SA1309ATA	TRANSISTOR	1	
Q511	2SC3311ATA	TRANSISTOR	1	
Q701,02	2SC3311ATA	TRANSISTOR	2	
R101	ERDS2FJ103	1/4W 10K	1	
R102	ERDS2FJ331	1/4W 330	1	
R104	ERDS2FJ101	1/4W 100	1	
R105,06 ⚠	ERDS2FJ100	1/4W 10	2	
R107	ERDS2FJ222	1/4W 2.2K	1	
R108	ERDS2FJ472	1/4W 4.7K	1	
R109	ERDS2FJ473	1/4W 47K	1	
R110	ERDS2FJ392	1/4W 3.9K	1	
R113	ERDS2FJ392	1/4W 3.9K	1	
R114	ERDS2FJ102	1/4W 1K	1	

Ref. No.	Part No.	Part Name & Description	Pcs	Remarks
R115	ERDS2FJ472	1/4W 4.7K	1	
R116 ⚠	ERD25FVJ560T	1/4W 56	1	
R117 ⚠	ERD2FCG100	1/4W 10	1	
R118-20	ERDS2FJ102	1/4W 1K	3	
R301	ERDS2FJ821	1/4W 820	1	
R302	ERDS2FJ102	1/4W 1K	1	
R303	ERDS2FJ122	1/4W 1.2K	1	
R304	ERDS2FJ152	1/4W 1.5K	1	
R305	ERDS2FJ182	1/4W 1.8K	1	
R306	ERDS2FJ222	1/4W 2.2K	1	
R307	ERDS2FJ332	1/4W 3.3K	1	
R308	ERDS2FJ102	1/4W 1K	1	
R309,10 ⚠	ERDS1FJ221	1/2W 220	2	
R313,14	ERDS2FJ121	1/4W 120	2	
R315-18	ERDS2FJ470	1/4W 47	4	
R319,20	ERDS2FJ563	1/4W 56K	2	
R321,22	ERDS2FJ682	1/4W 6.8K	2	
R323,24	ERDS2FJ123	1/4W 12K	2	
R325	ERDS2FJ472	1/4W 4.7K	1	
R331,32	ERDS2FJ472	1/4W 4.7K	2	
R333,34	ERDS2FJ121	1/4W 120	2	
R336	ERDS2FJ121	1/4W 120	1	
R337-40 ⚠	ERDS2FJ470	1/4W 47	4	
R504	ERDS2FJ105	1/4W 1M	1	
R505,06	ERDS2FJ222	1/4W 2.2K	2	
R507-10	ERDS2FJ103	1/4W 10K	4	
R511,12	ERDS2FJ101	1/4W 100	2	
R513,14	ERDS2FJ563	1/4W 56K	2	
R515	ERDS2FJ334	1/4W 330K	1	
R516 ⚠	ERDS1FJ471	1/2W 470	1	
R517,18 ⚠	ERDS2FJ2R2	1/4W 2.2	2	
R519,20	ERDS2FJ563	1/4W 56K	2	
R521	ERDS2FJ684	1/4W 680K	1	
R523,24	ERDS2FJ272	1/4W 2.7K	2	
R525,26 ⚠	ERDS2FJ100	1/4W 10	2	
R527,28 ⚠	ERDS1FJ100	1/2W 10	2	
R529	ERDS2FJ823	1/4W 82K	1	
R530	ERDS2FJ124	1/4W 120K	1	
R531	ERDS2FJ563	1/4W 56K	1	
R532	ERDS2FJ564	1/4W 560K	1	
R533	ERDS2FJ223	1/4W 22K	1	
R534	ERDS2FJ103	1/4W 10K	1	
R535	ERDS2FJ473	1/4W 47K	1	
R701	ERDS2FJ102	1/4W 1K	1	

Ref. No.	Part No.	Part Name & Description	Pcs	Remarks
R702	ERDS2FJ392	1/4W 3.9K	1	
R703	ERDS2FJ333	1/4W 33K	1	
R705	ERDS2FJ102	1/4W 1K	1	
R706	ERDS2FJ392	1/4W 3.9K	1	
R707	ERDS2FJ684	1/4W 680K	1	
R708	ERDS2FJ104	1/4W 100K	1	
R709	ERDS2FJ473	1/4W 47K	1	
RL101 ⚠	RSY0013M-0	RELAY	1	
RL701 ⚠	RSY0013M-0	RELAY	1	
RL702 ⚠	RSY0040M-0	RELAY	1	
S301-08	EVQ21405R	SW PUSH	8	
VR301	EVQVBXFK124B	V.R. VOLUME	1	
Z701 ⚠	ERZV10V511CS	COMPONENT COMBINATION	1	

13. Cabinet Parts Location

Ref. No.	Part No.	Part Name & Description	Pcs	Remarks
1	RHD30007-S	SCREW	4	
2	RKM0397B-S	CABINET	1	
3	XTBS3+10JFZ1	SCREW	1	
4	XTB3+8JFZ	SCREW	3	
5	RGH0154B-K	NAME PLATE	1	(E)(EG)
5	RGH0154C-K	NAME PLATE	1	(EB)
6	RGW0318-S	KNOB VOLUME	1	
7	RKA0076-N1	FOOT	4	
7-1	RKA0083-K	CUSHION	4	
8	XTB3+6G	SCREW	4	
9	RFKGEHD301EN	FRONT PANEL ASS'Y	1	
10	RGK0812-S	SIDE ORNAMENT(L)	1	
11	RGK0813-S	SIDE ORNAMENT(R)	1	
12	RGK0815A-N	VOLUME ORNAMENT	1	
13	RGU1750-S	BUTTON	1	
14	RGU1751-S	BUTTON	1	
15	RHD26016	SCREW	1	
16	RHN90001	NUT	1	
17	XTBS26+8J	SCREW	5	
18	XTBS3+8JFZ1	SCREW	11	

Ref. No.	Part No.	Part Name & Description	Pcs	Remarks
19	XTB3+12FFZ	SCREW	1	
20	XTB3+20JFZ	SCREW	3	
21	XTW3+15T	SCREW	3	
22	REX0962	FLAT CABLE(20P)	1	
27	RMV0186	BARRIER	1	

14. Packaging

Ref. No.	Part No.	Part Name & Description	Pcs	Remarks
A1	RAK-HDA07WH	REMOTE CONT.TRANSMITTER	1	
A1-1	RKK0123-K	BATT.COVER(REMOTE CONT.)	1	
A2	REE0499	SPEAKER CORD	2	
A3 ⚠	RJA0019-X	AC POWER SUPPLY CORD	1	(E)(EG)
A3 ⚠	RJA0053-2X	AC POWER SUPPLY CORD	1	(EB)
A4	RQA0117	WARRANTY CARD	1	
A5	RQCB0169	SERVICENTER LIST	1	
A6	RQT4890-E	INSTRUCTION MANUAL	1	(E)<IC>
A6	RQT4891-B	INSTRUCTION MANUAL	1	(EB)<ID>
A6	RQT4888-D	INSTRUCTION MANUAL	1	(EG)<IA>
A6	RQT4889-H	INSTRUCTION MANUAL	1	(EG)<IB>
A7	RSA0007	FM INDOOR ANTENNA	1	
A8	RSA0021	AM LOOP ANTENNA	1	
A9	RQCA0664	QUICK SETUP GUIDE	1	(EB)
A10 ⚠	SJP9009	AC PLUG ADAPTOR	1	(EB)
P1	RPF0139	PROTECTION BAG(F.B.)	1	
P2	RPG4392	PACKING CASE(AMP./DECK)	2	
P3	RPN1186	CUSHION(AMP./DECK)	2	
P4	RPG4322	PACKING CASE(SYSTEM)	1	(E)
P4	RPG4323	PACKING CASE(SYSTEM)	1	(EB)
P4	RPG4321	PACKING CASE(SYSTEM)	1	(EG)
P5	RPQ0771	PAD	1	
P6	SPP740-1	PROTECTION BAG	4	

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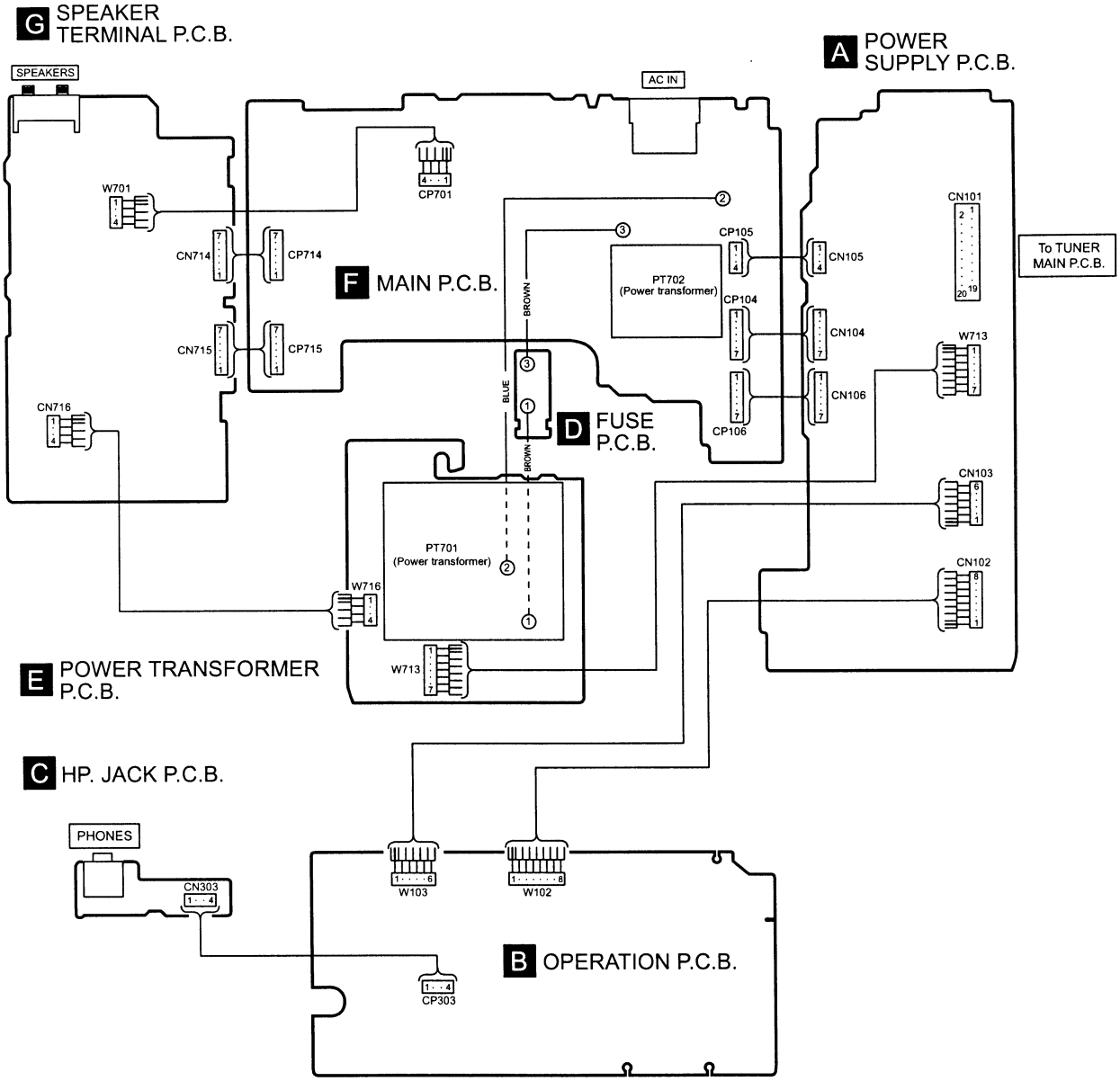
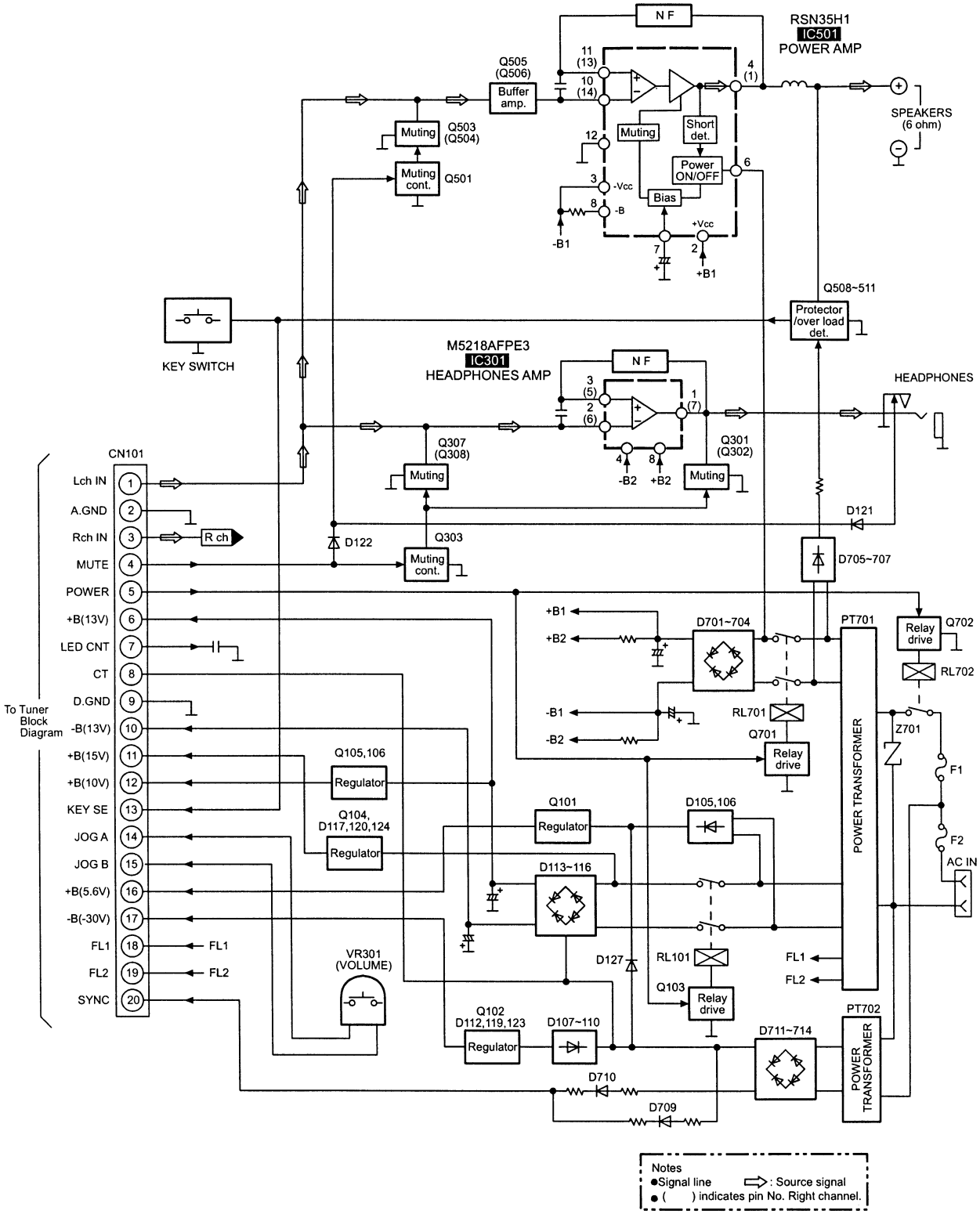
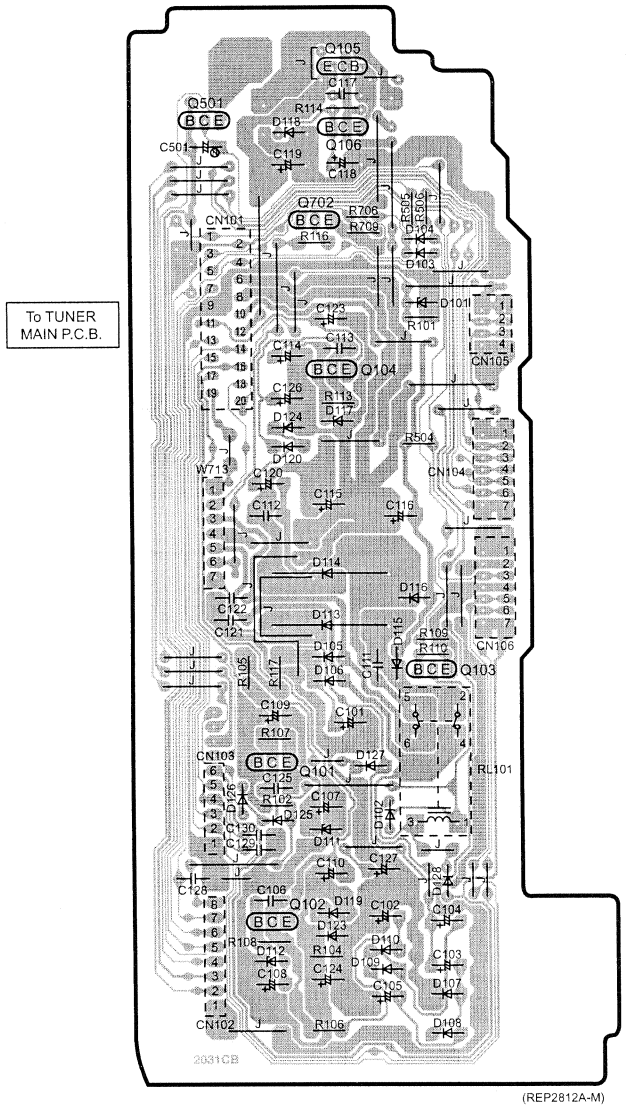
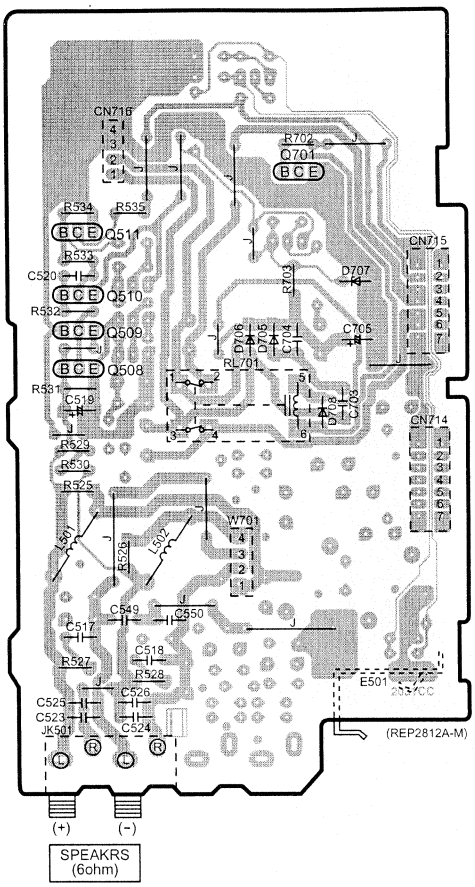

G SPEAKER TERMINAL P.C.B.
A POWER SUPPLY P.C.B.
SPEAKERS
AC IN
W701
CP701
CN714
CP714
F MAIN P.C.B.
CN715
CP715
CN716
BROWN
BLUE
D FUSE P.C.B.
PT702 (Power transformer)
CP105
CP104
CP106
CN105
CN104
CN106
CN101
To TUNER MAIN P.C.B.
W713
CN103
CN102
PT701 (Power transformer)
W716
W713
E POWER TRANSFORMER P.C.B.
C HP. JACK P.C.B.
PHONES
CN303
W103
W102
B OPERATION P.C.B.
CP303


RSN35H1
IC501
POWER AMP
N F
Q505
(Q506)
Buffer amp.
Muting
Q503
(Q504)
Muting cont.
Q501
Short det.
Power ON/OFF
Bias
-Vcc
-B
+Vcc
-B1
+B1
SPEAKERS
(6 ohm)
Q508~511
Protector /over load det.
KEY SWITCH
M5218AFPE3
IC301
HEADPHONES AMP
HEADPHONES
Q307
(Q308)
Q301
(Q302)
-B2
+B2
D121
D122
Q303
D705~707
CN101
Lch IN
A.GND
Rch IN
R ch
MUTE
POWER
+B(13V)
LED CNT
CT
D.GND
-B(13V)
+B(15V)
+B(10V)
KEY SE
JOG A
JOG B
+B(5.6V)
-B(-30V)
FL1
FL2
SYNC
To Tuner Block Diagram
D701~704
PT701
Relay drive
Q702
RL702
RL701
Q701
Z701
F1
F2
AC IN
POWER TRANSFORMER
Q105,106
Regulator
Q104,
D117,120,124
Q101
D105,106
D113~116
VR301
(VOLUME)
D127
RL101
Q103
Q102
D112,119,123
D107~110
D711~714
PT702
D710
D709
Notes
●Signal line
: Source signal
● ( ) indicates pin No. Right channel.

A POWER SUPPLY P.C.B.



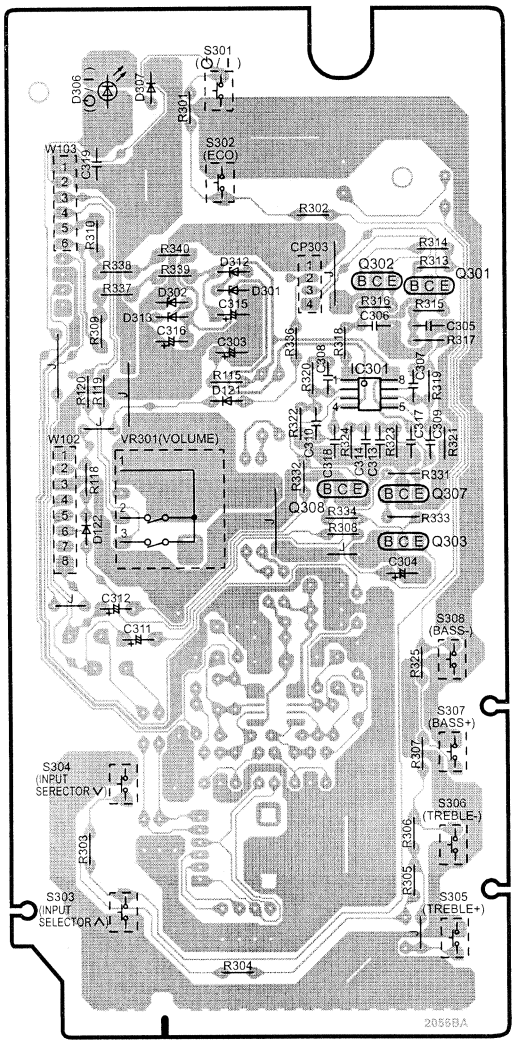
G SPEAKER TERMINAL P.C.B.



■ ELECTRICAL PARTS LOCATION

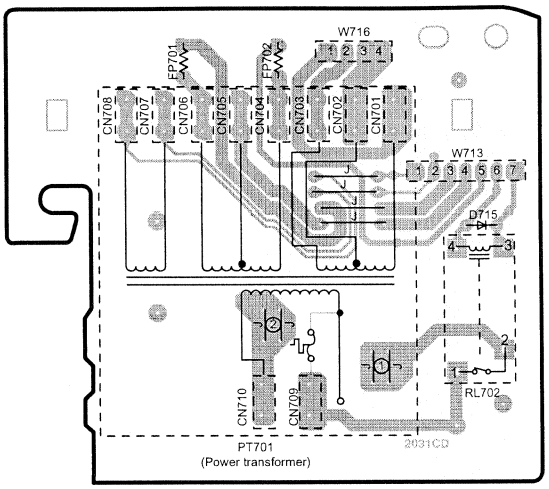
Ref. No.	Lo. No.	Ref. No.	Lo. No.	Ref. No.	Lo. No.	Ref. No.	Lo. No.	Ref. No.	Lo. No.	Ref. No.	Lo. No.	Ref. No.	Lo. No.	Ref. No.	Lo. No.	Ref. No.	Lo. No.
A POWER SUPPLY P.C.B.																	
Q101	5B	D104	2C	D115	4C	D128	5C	R104	6C	R504	3C	C107	5C	C118	2C	C129	5B
Q102	5B	D105	4C	D116	4C	RL101	5C	R105	4B	R505	2C	C108	6B	C119	2B	C130	5B
Q103	4C	D106	4C	D117	3C	CN101	2B	R106	6C	R506	2C	C109	4B	C120	3B	C501	2B
Q104	3C	D107	6C	D118	2B	CN102	6B	R107	5B	R706	2C	C110	5C	C121	4B		
Q105	1C	D108	6C	D119	5C	CN103	5B	R108	6B	R709	2C	C111	4C	C122	4B		
Q106	2C	D109	6C	D120	3B	CN104	3C	R109	4C	C101	4C	C112	3B	C123	2C		
Q501	2B	D110	6C	D123	6C	CN105	3C	R110	4C	C102	5C	C113	3C	C124	6C		
Q702	2C	D111	5C	D124	3B	CN106	4C	R113	3C	C103	6C	C114	3B	C125	5B		
D101	2C	D112	6B	D125	5B	W713	3B	R114	1C	C104	5C	C115	3C	C126	3B		
D102	5C	D113	4C	D126	5B	R101	2C	R116	2C	C105	6C	C116	3C	C127	5C		
D103	2C	D114	4C	D127	5C	R102	5B	R117	4B	C106	5B	C117	1C	C128	5B		
G SPEAKER TERMINAL P.C.B.																	
Q508	3D	D705	3E	L502	4E	W701	4E	R527	4D	R532	3D	R703	2E	C523	5D	C550	4E
Q509	3D	D706	3E	RL701	3E	JK501	5D	R528	4E	R533	2D	C517	4D	C524	5E	C703	3F
Q510	3D	D707	2F	CN714	3F	E501	4F	R529	3D	R534	2D	C518	4E	C525	5D	C704	3F
Q511	2D	D708	3F	CN715	3F	R525	4D	R530	3D	R535	2E	C519	3D	C526	5E	C705	3F
Q701	2F	L501	4D	CN716	2E	R526	4E	R531	3D	R702	2F	C520	2D	C549	4E		

B OPERATION P.C.B.



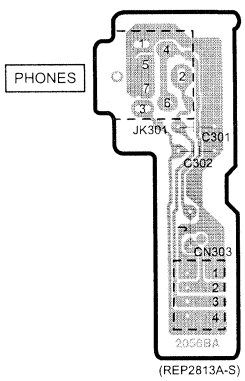
(REP2813A-S)

E POWER TRANSFORMER P.C.B.



(REP2812A-M)

C HP. JACK P.C.B.

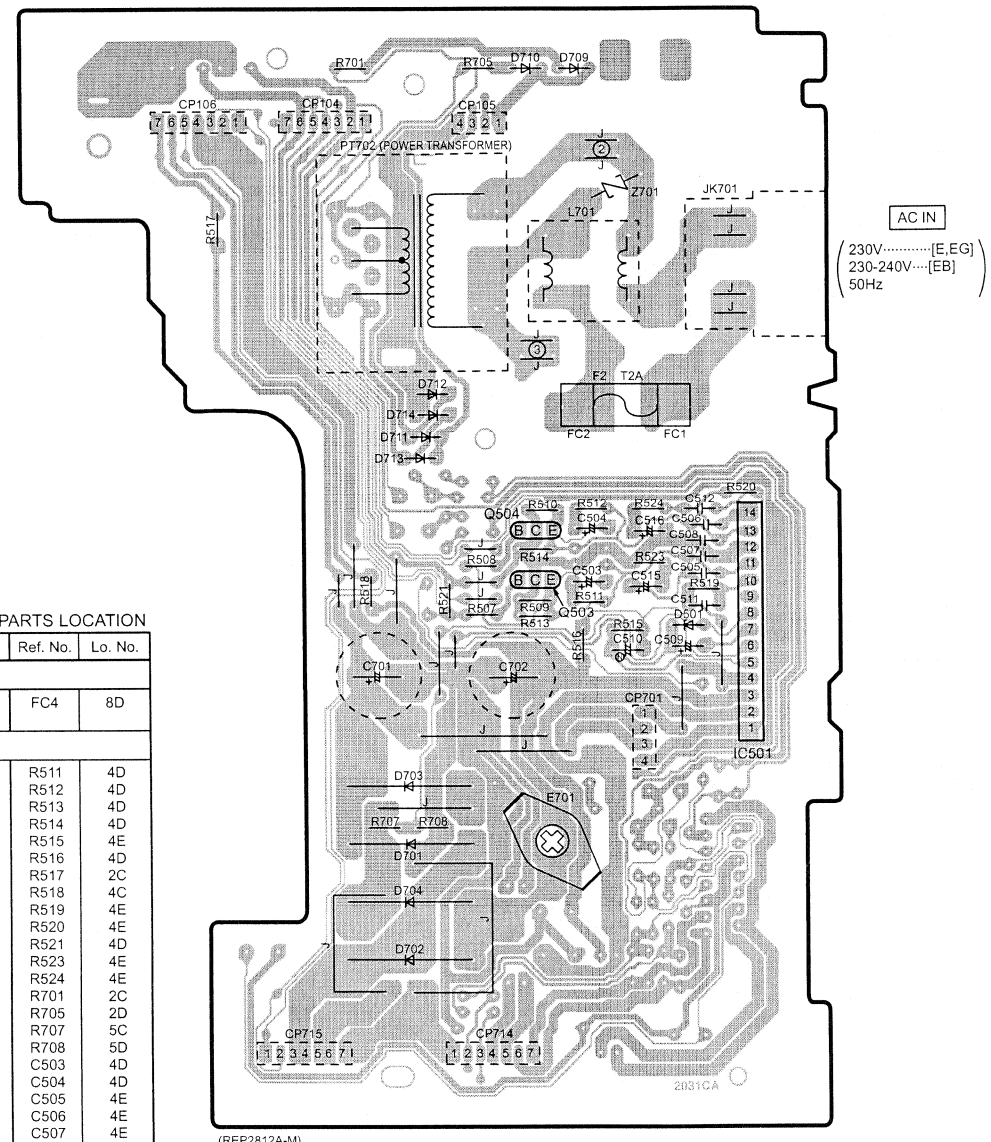


(REP2813A-S)

■ ELECTRICAL PARTS LOCATION

Ref. No.	Lo. No.	Ref. No.	Lo. No.	Ref. No.	Lo. No.	Ref. No.	Lo. No.
B OPERATION P.C.B.							
IC301	3C	S306	5C	R313	2C	R339	2B
Q301	2C	S307	5C	R314	2C	R340	2B
Q302	2C	S308	4C	R315	2C	C303	3B
Q303	4C	CP303	2B	R316	2C	C304	4C
Q307	3C	W102	3A	R317	3C	C305	3C
Q308	3C	W103	2A	R318	3C	C306	3C
D121	3B	R115	3B	R319	3C	C307	3C
D122	4A	R118	3A	R320	3B	C308	3B
D301	2B	R119	3A	R321	3C	C309	3C
D302	2B	R120	3A	R322	3B	C310	3B
D306	1A	R301	1B	R323	3C	C311	4B
D307	1B	R302	2B	R324	3C	C312	4A
D312	2B	R303	5A	R325	4C	C313	3C
D313	3B	R304	6B	R331	3C	C314	3C
VR301	3B	R305	5C	R332	3B	C315	2B
S301	1B	R306	5C	R333	3C	C316	3B
S302	2B	R307	5C	R334	3C	C317	3C
S303	5A	R308	4C	R336	3B	C318	3C
S304	5A	R309	3A	R337	2A	C319	2A
S305	6C	R310	2A	R338	2A		
C HEADPHONES JACK P.C.B.							
CN303	8B	JK301	7B	C301	7B	C302	7B
E POWER TRANSFORMER							
D715	2F	CN701	2E	CN706	2E	W713	2F
PT701	3E	CN702	2E	CN707	2D	W716	2E
FP701	2D	CN703	2E	CN708	2D		
FP702	2E	CN704	2E	CN709	3E		
RL702	3F	CN705	2E	CN710	3E		

F MAIN P.C.B.

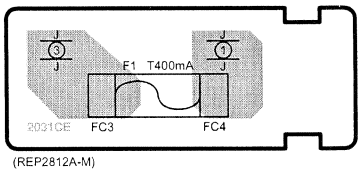


(REP2812A-M)

■ELECTRICAL PARTS LOCATION

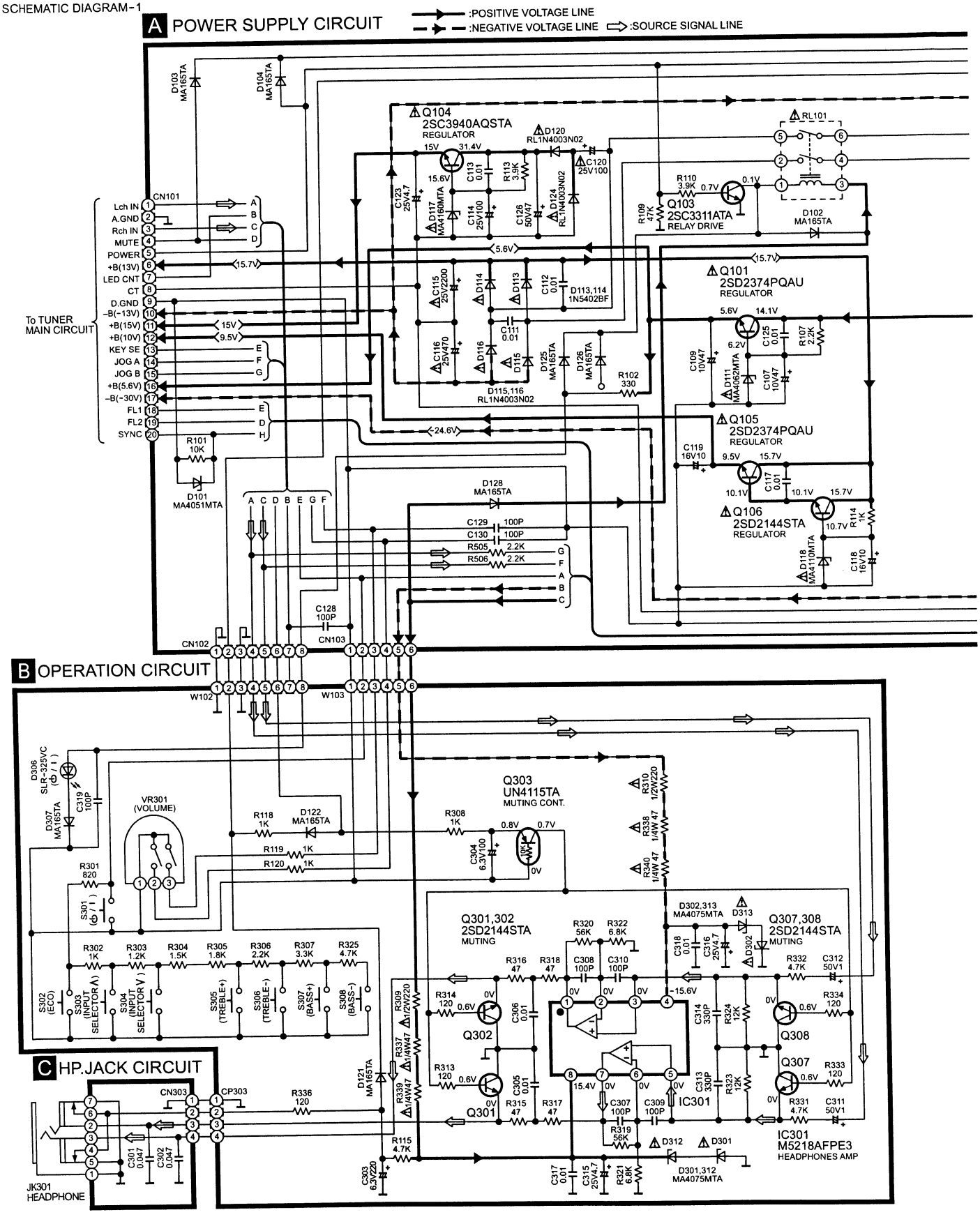
Ref. No.	Lo. No.	Ref. No.	Lo. No.
D FUSE P.C.B.			
F1	8D	FC4	8D
FC3	8D		
F MAIN P.C.B.			
IC501	4E	R511	4D
Q503	4D	R512	4D
Q504	4D	R513	4D
D501	4E	R514	4D
D701	5C	R515	4E
D702	6C	R516	4D
D703	5C	R517	2C
D704	6C	R518	4C
D709	2D	R519	4E
D710	2D	R520	4E
D711	3D	R521	4D
D712	3D	R523	4E
D713	4D	R524	4E
D714	3D	R701	2C
L701	3D	R705	2D
Z701	2E	R707	5C
F2	3E	R708	5D
E701	5D	C503	4D
CP104	2C	C504	4D
CP105	2D	C505	4E
CP106	2B	C506	4E
CP701	5E	C507	4E
CP714	6D	C508	4E
CP715	6C	C509	4E
JK701	2E	C510	4E
PT702	2C	C511	4E
FC1	3E	C512	4E
FC2	3D	C515	4E
R507	4D	C516	4E
R508	4D	C701	5C
R509	4D	C702	5D
R510	4D		

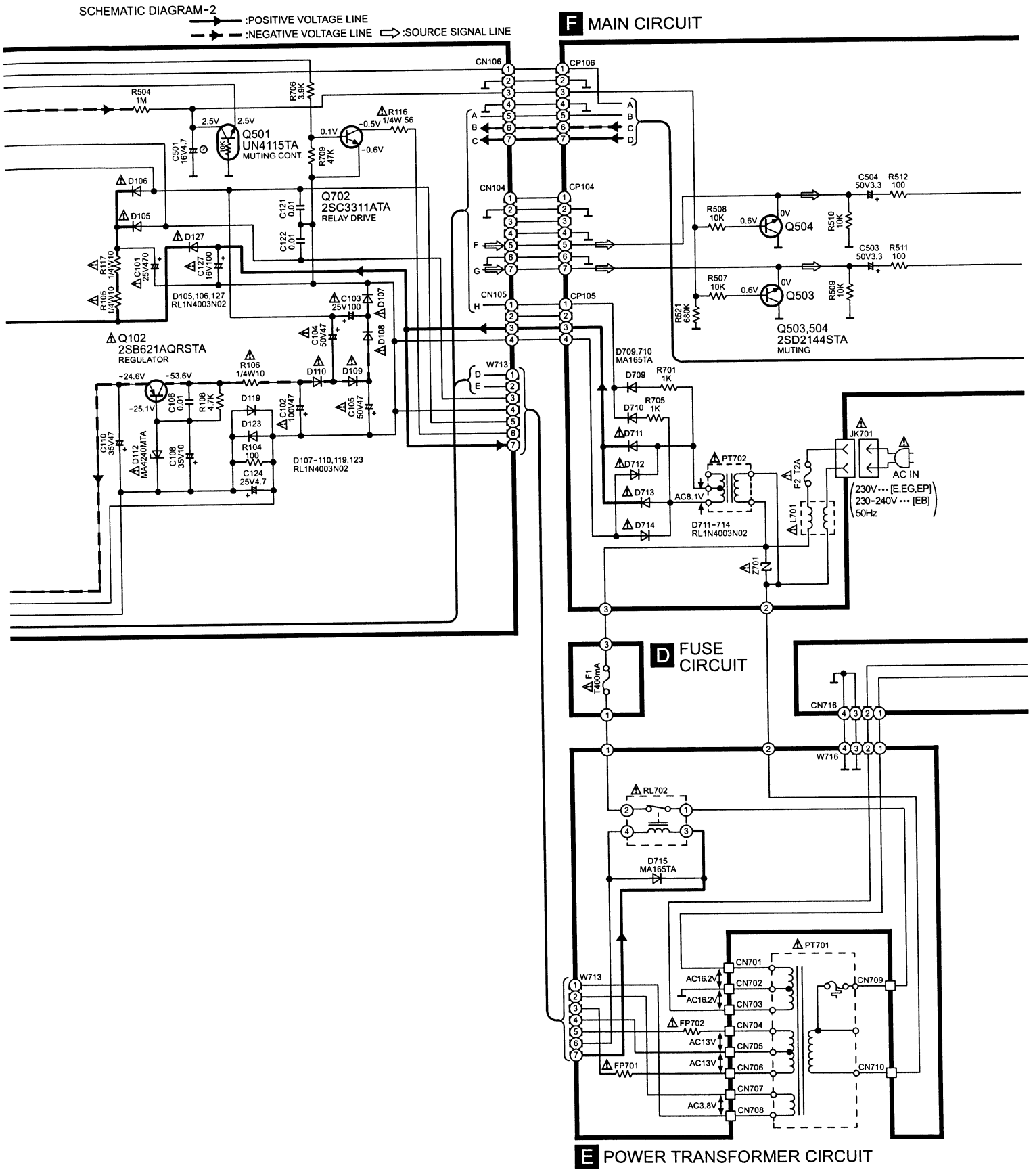
D FUSE P.C.B.



(REP2812A-M)

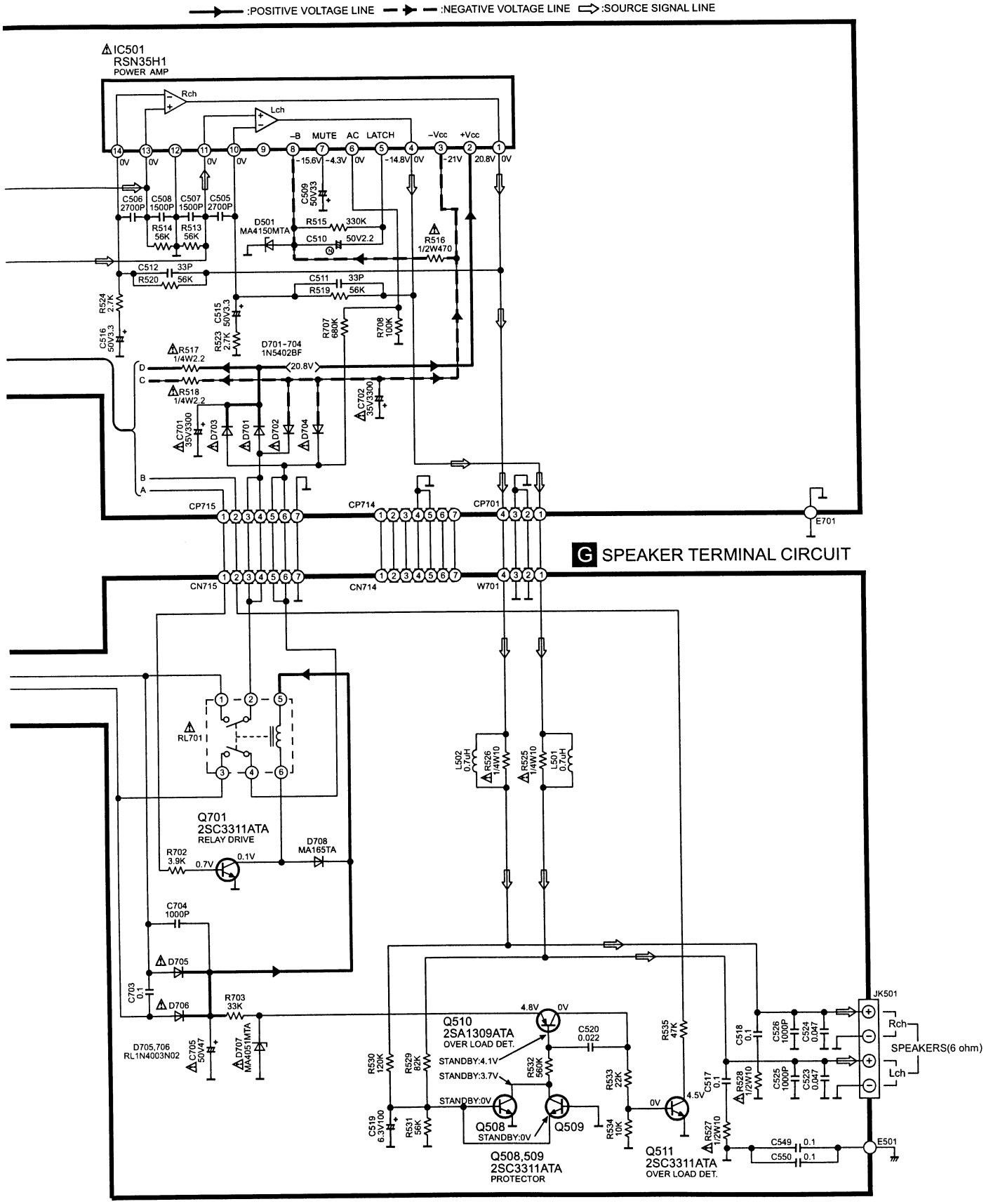
SCHEMATIC DIAGRAM-1



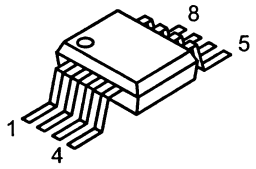

SCHEMATIC DIAGRAM-2
:POSITIVE VOLTAGE LINE
:NEGATIVE VOLTAGE LINE
:SOURCE SIGNAL LINE
F MAIN CIRCUIT
Q501
UN4115TA
MUTING CONT.
Q702
2SC3311ATA
RELAY DRIVE
Q102
2SB621AQRSTA
REGULATOR
Q504
Q503
Q503,504
2SD2144STA
MUTING
D105,106,127
RL1N4003N02
D107-110,119,123
RL1N4003N02
D711-714
RL1N4003N02
D709,710
MA165TA
D715
MA165TA
D112
MA4240MTA
AC IN
230V··· [E,EG,EP]
230-240V··· [EB]
50Hz
D FUSE CIRCUIT
E POWER TRANSFORMER CIRCUIT

SCHEMATIC DIAGRAM-3

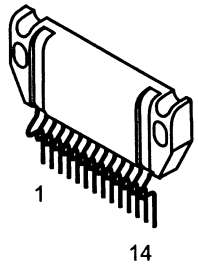
:POSITIVE VOLTAGE LINE :NEGATIVE VOLTAGE LINE :SOURCE SIGNAL LINE



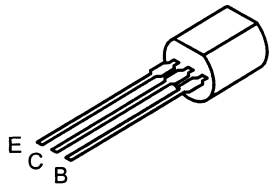
M5218AFPE3

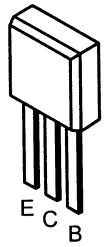


RSN35H1



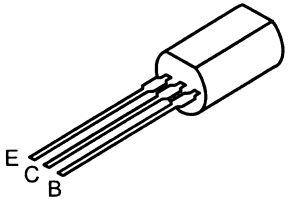
2SB621AQRSTA



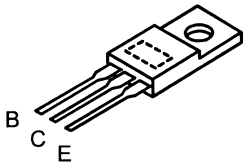


2SA1309ATA
2SC3311ATA
UN4115TA

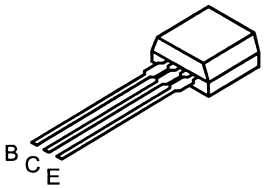
2SC3940AQSTA



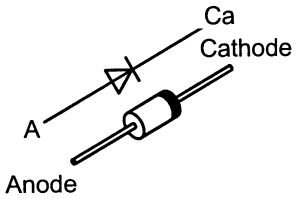
2SD2374PQAU



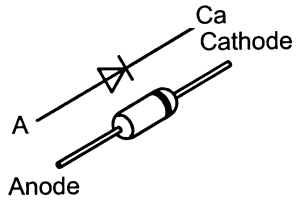
2SD2144STA

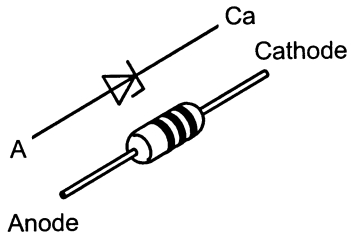


1N5402BF
RL1N4003N02

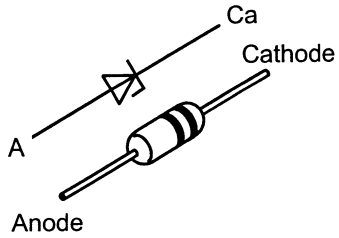


MA165TA



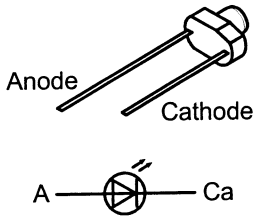


MA4051MTA
MA4062MTA

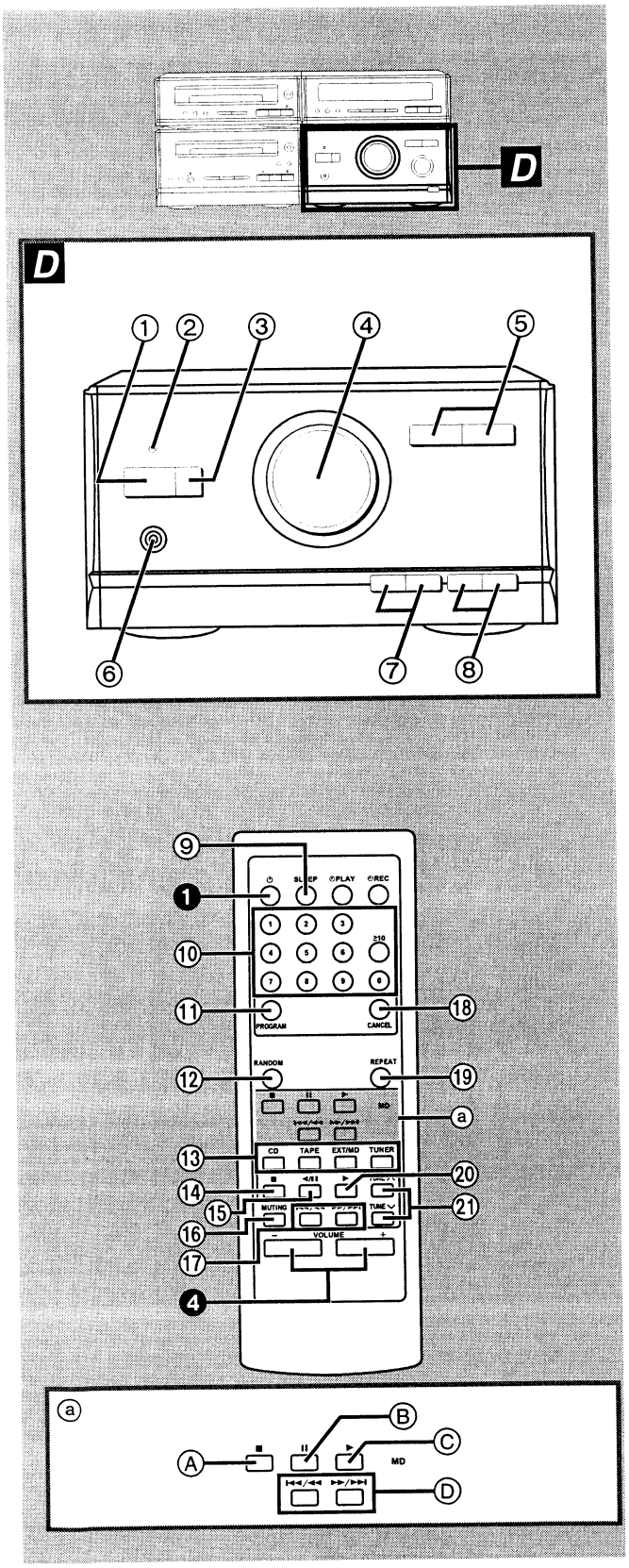


MA4075MTA
MA4110MTA
MA4150MTA
MA4160MTA
MA4240MTA

SLR-325VC



■ Front Panel Controls



Amplifier section

D

① **Standby/on switch (⏻/I)**
Press to switch the unit from on to standby mode or vice versa. In standby mode, the unit is still consuming a small amount of power.
② **Standby indicator**
When the unit is connected to the AC mains supply, this indicator lights up in standby mode and goes out when the unit is turned on.
③ **Eco mode button (ECO)**
④ **Volume control (VOLUME)**
⑤ **Source input select buttons (INPUT SELECTOR ∨, ∧)**
⑥ **Headphones jack (PHONES)**
⑦ **Bass buttons (BASS –, +)**
⑧ **Treble buttons (TREBLE –, +)**

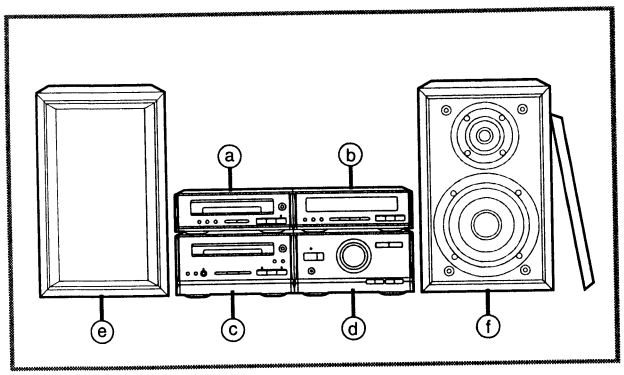
Remote control

Buttons such as ❶ function the same as the buttons on the main unit.

⑨ **Sleep timer button (SLEEP)**
⑩ **Numeric buttons**
⑪ **Program button (PROGRAM)**
⑫ **Random button (RANDOM)**
⑬ **Input selection buttons (CD, TAPE, EXT/MD, TUNER)**
⑭ **CD/tape stop button (■)**
⑮ **Tape reverse playback/CD pause button (◀/❚❚)**
⑯ **Muting button (MUTING)**
⑰ **CD skip/search, tape fast forward/rewind buttons (I◀◀/◀◀, ▶▶/▶▶I)**
⑱ **Cancel button (CANCEL)**
⑲ **Repeat button (REPEAT)**
⑳ **CD play/tape forward playback button (▶)**
㉑ **Tuning buttons (TUNE ∧, TUNE ∨)**

Minidisc deck operations (when connected to a minidisc deck SJ-HD501 (sold separately)) ⓐ
Ⓐ **Stop button (■)**
Ⓑ **Pause button (❚❚)**
Ⓒ **Play button (▶)**
Ⓓ **Skip, fast forward/rewind buttons (I◀◀/◀◀, ▶▶/▶▶I)**

■ Installation

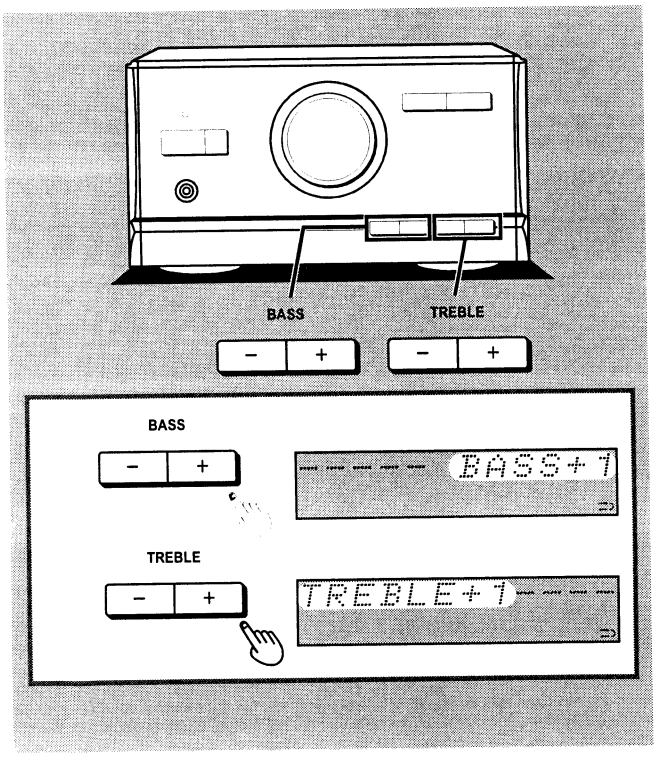


ⓐ CD player (SL-HD301)
ⓑ Tuner (ST-HD301)
ⓒ Cassette deck (RS-HD301)
ⓓ Amplifier (SE-HD301)
ⓔ Left speaker (SB-HD301)
ⓕ Right speaker (SB-HD301)

Caution
Use the speakers only with the recommended system. Failure to do so may lead to damage to the amplifier and/or the speaker, and may result in the risk of fire. Consult a qualified service person if damage has occurred or if you experience a sudden change in performance.

Note
- Do not put the CD player on the amplifier. The CDs can become hot and damaged.
- Left and right speakers are exactly the same.

■ Changing the Tone



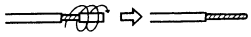
To adjust the tone quality

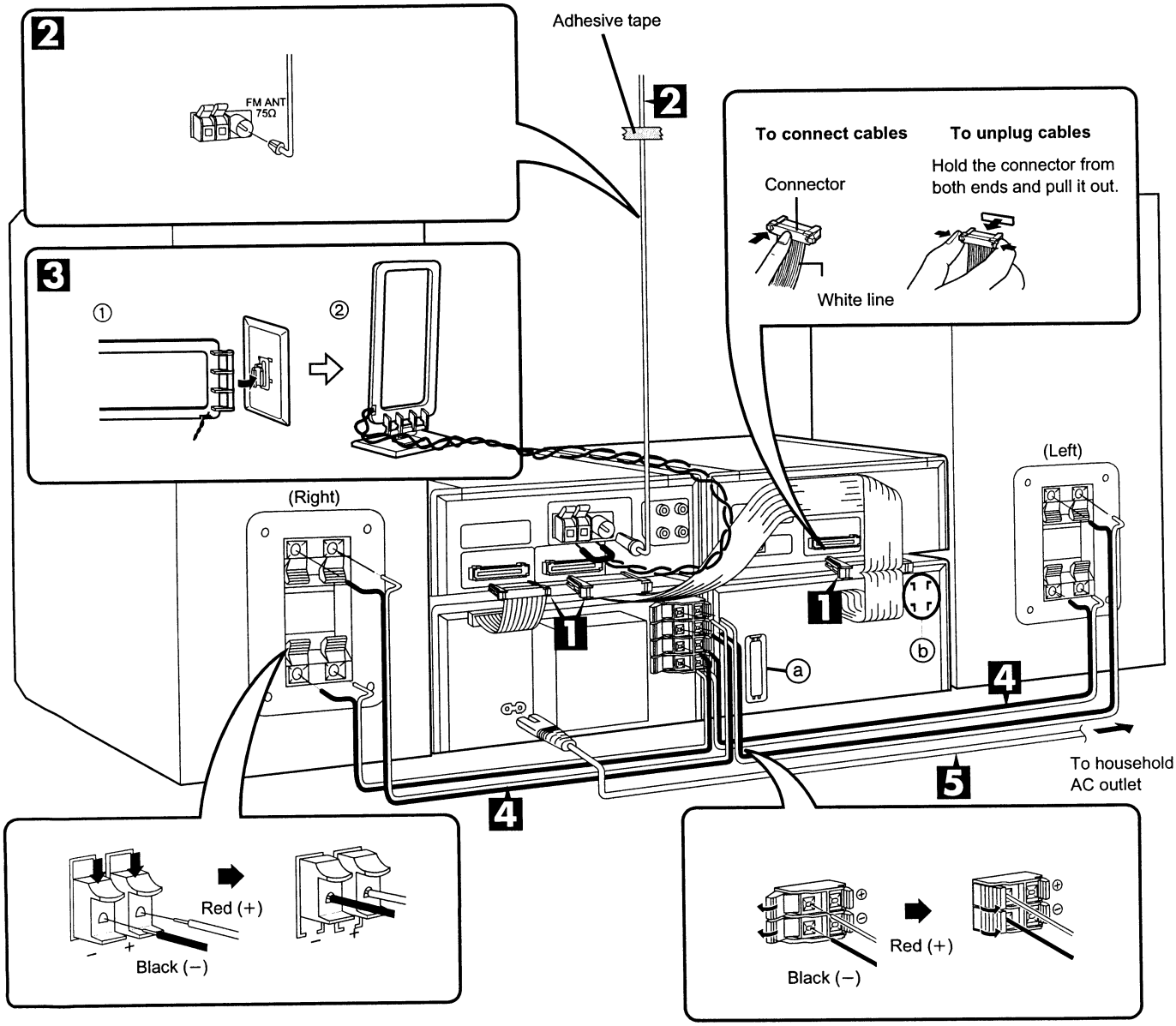
The level can be adjusted between –3 to +3.
Press [BASS (–, +)] to adjust the low-frequency sound.
Press [TREBLE (–, +)] to adjust the high-frequency sound.

To cancel:
Press [BASS (–, +)] or [TREBLE (–, +)] to select "BASS 0" or "TREBLE 0".("FLAT" will light.)

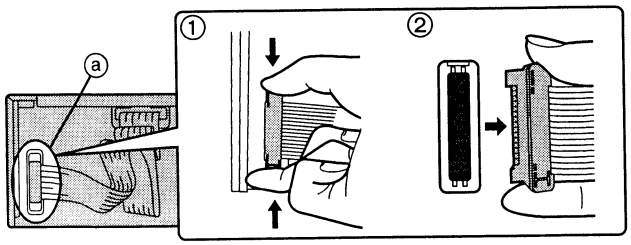
■ Connections

Connect the AC mains lead after you have connected all other cables.
To prepare the AM loop antenna wire and speaker cords, twist the vinyl cover tip and pull off.





Before connection
Disconnect the flat cable on the cassette deck. ⓐ



1 Connect the flat cables.

Connect the flat cables to the terminals on each unit.

Note

Do not connect or disconnect the flat cables while the unit is on.

After connection:
Keep cables as flat against the back of the unit as possible.

2 Connect the FM indoor antenna.

Tape the antenna to a wall or column where radio signals are received with the least amount of interference.

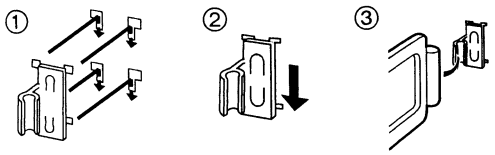
Note

When you cannot get good reception with this FM indoor antenna, we recommend you install an FM outdoor antenna (not included).

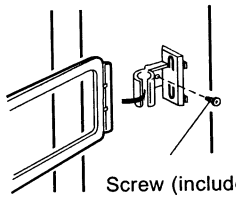
3 Connect the AM loop antenna.

You can also install the AM loop antenna on the rear of the cassette deck, wall or pillars.
In this case, be sure to use the antenna holder with the hole.

●To install on the cassette deck rear (ⓑ)



●To install on walls or pillars



Note

Minimize noise by bundling the cord with tape to keep it away from the flat cables.

4 Connect the right (R) and left (L) speaker cables.

Connect the speaker cables to the terminal levers of the same color.

Use only the supplied speakers.
The combination of the main unit and front speakers provide the best sound. Using other speakers can damage the unit and sound quality will be negatively effected.

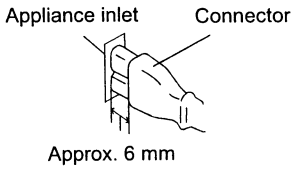
Note

- To prevent damage to circuitry, never short-circuit positive (+) and negative (−) speaker wires.
- Be sure to connect only positive (red) wires to positive (+) terminals and negative (black) wires to negative (−) terminals.

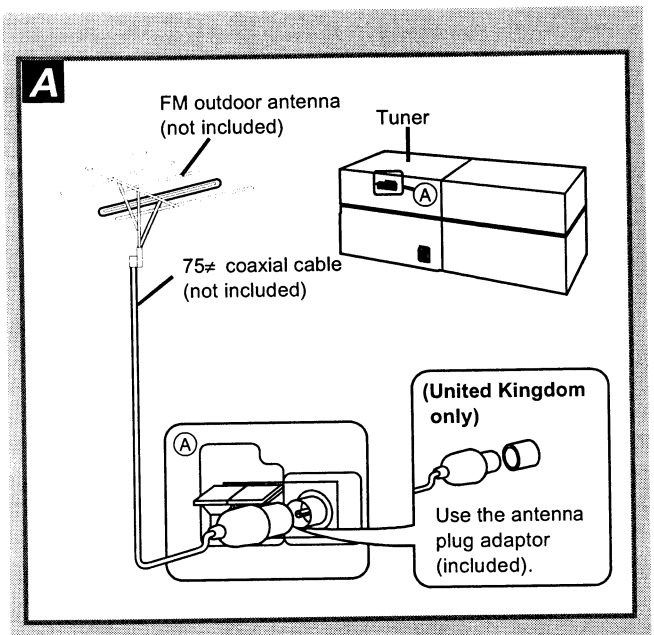
(United Kingdom only)
BE SURE TO READ THE CAUTION FOR AC MAINS LEAD BEFORE PROCEEDING TO STEP 5.

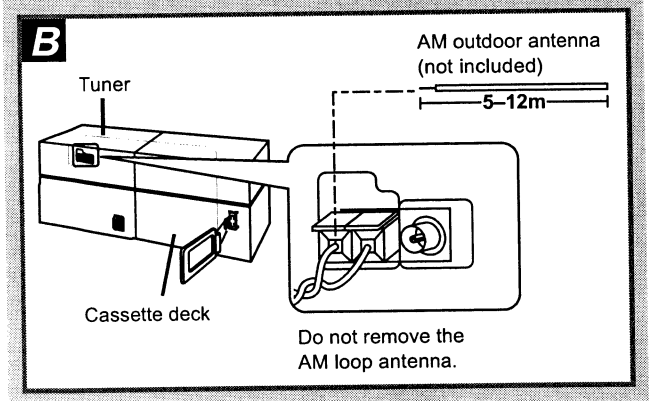
5 Connect the AC mains lead.

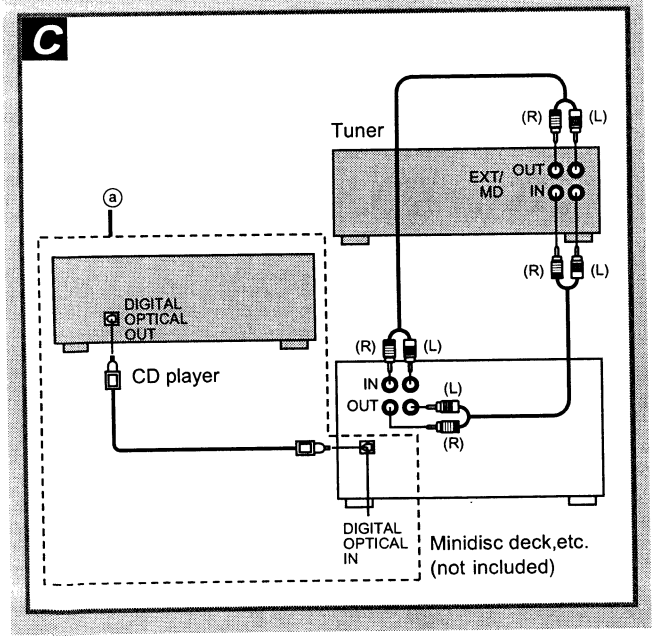
Insertion of Connector
Even when the connector is perfectly inserted, depending on the type of inlet used, the front part of the connector may jut out as shown in the drawing.
However there is no problem using the unit.



For your reference:
Information you enter into the unitís memory, except for the time, remains intact for up to two weeks after the mains lead is disconnected.







Optional antenna connections

You may need an outdoor antenna if you use this system in a mountainous region or inside a reinforced-concrete building, etc.

FM outdoor antenna (not included) A

Note

An outdoor antenna should be installed by a competent technician only.

AM outdoor antenna (not included) B

Connect the outdoor antenna without removing the AM loop antenna. Run 5 to 12 m of vinyl-covered wire horizontally along a window or other convenient location.

Note

When the unit is not in use, disconnect the outdoor antenna to prevent possible damage that may be caused by lightning. Never use an outdoor antenna during an electrical storm.

Connecting a minidisc deck, etc. C

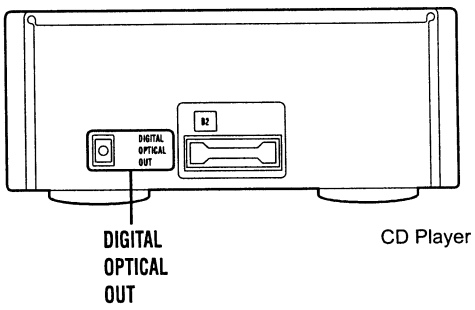
- Make sure that the power supply for all components has been turned off before making any connections.
- For details, refer to the operating instructions of the external unit which is to be connected.
- All peripheral components and cables sold separately.

Stereo connection cable

White (L)
Red (R)

Connections to "DIGITAL OPTICAL OUT" terminal:ⓐ

Before using this terminal, take out the dust protection cap.
Connect an optical-fiber cable to the optical input terminal of the minidisc deck (not included).



(For United Kingdom)

("EB" area code model only)

For your safety, please read the following text carefully.

This appliance is supplied with a moulded three pin mains plug for your safety and convenience.
A 5-ampere fuse is fitted in this plug.
Should the fuse need to be replaced please ensure that the replacement fuse has a rating of 5-ampere and that it is approved by ASTA or BSI to BS1362.
Check for the ASTA mark ◈ or the BSI mark ♆ on the body of the fuse.

If the plug contains a removable fuse cover you must ensure that it is refitted when the fuse is replaced.
If you lose the fuse cover the plug must not be used until a replacement cover is obtained.
A replacement fuse cover can be purchased from your local dealer.

CAUTION!
IF THE FITTED MOULDED PLUG IS UNSUITABLE FOR THE SOCKET OUTLET IN YOUR HOME THEN THE FUSE SHOULD BE REMOVED AND THE PLUG CUT OFF AND DISPOSED OF SAFELY.
THERE IS A DANGER OF SEVERE ELECTRICAL SHOCK IF THE CUT OFF PLUG IS INSERTED INTO ANY 13-AMPERE SOCKET.

If a new plug is to be fitted please observe the wiring code as shown below.
If in any doubt please consult a qualified electrician.

IMPORTANT

The wires in this mains lead are coloured in accordance with the following code:
Blue: Neutral, Brown: Live.
As these colours may not correspond with the coloured markings identifying the terminals in your plug, proceed as follows:
The wire which is coloured Blue must be connected to the terminal which is marked with the letter N or coloured Black or Blue.
The wire which is coloured Brown must be connected to the terminal which is marked with the letter L or coloured Brown or Red.

WARNING: DO NOT CONNECT EITHER WIRE TO THE EARTH TERMINAL WHICH IS MARKED WITH THE LETTER E, BY THE EARTH SYMBOL ⏚ OR COLOURED GREEN OR GREEN/YELLOW.

THIS PLUG IS NOT WATERPROOF óKEEP DRY.

Before use

Remove the connector cover.

How to replace the fuse

The location of the fuse differ according to the type of AC mains plug (figures A and B). Confirm the AC mains plug fitted and follow the instructions below.
Illustrations may differ from actual AC mains plug.

1. Open the fuse cover with a screwdriver.

Figure A

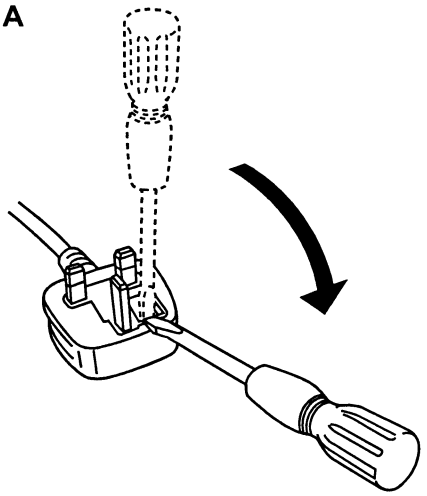
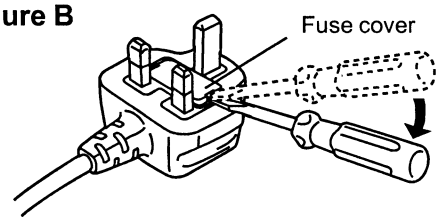


Figure B



2. Replace the fuse and close or attach the fuse cover.

Figure A

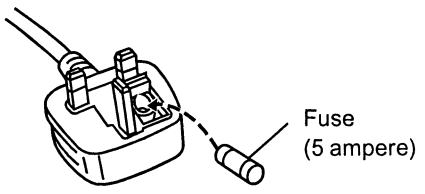


Figure B